



**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Hiroshi KOJIMA

Group Art Unit: 1794

Application No.: 10/519,796

Examiner: M. MATZEK

Filed: December 29, 2004

Docket No.: 123745

For: ELECTROMAGNETIC SHIELDING SHEET AND METHOD OF FABRICATING  
THE SAME

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This request is being filed with a Notice of Appeal and Petition for Extension of Time. Review of the April 9, 2009 Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Date: September 9, 2009

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**REMARKS****I. Status of Pending Claims**

Claims 1, 3, 4 and 6-11 are pending in this application. Claims 9 and 10 have been withdrawn from consideration. Claims 1, 3, 4, 6-8 and 11 are rejected. No amendments are being filed with this Request.

**II. Grounds of Rejection Presented for Review**

The Office Action rejects claims 1, 4, 6-8 and 11 under 35 U.S.C. §103(a) over EP 0 998 182 to Ueda et al. ("Ueda") in view of JP 62-107039 to Miyake ("Miyake") and rejects claim 3 under 35 U.S.C. §103(a) over Ueda and Miyake, as applied to claim 1, and further in view of U.S. Patent No. 5,158,657 to Kadokura et al. ("Kadokura").

Independent claim 1 is directed to an electromagnetic shielding sheet comprising: 1) a transparent base; 2) a mesh metal layer having openings and formed on one of the surfaces of the base; 3) a blackened layer formed on one of the surfaces of the metal layer; and 4) a density-intensifying layer formed on the blackened layer for intensifying the black density of the blackened layer. The blackened layer is formed of Cu-Co alloy particles adhering to the metal layer, and the density-intensifying layer is a chromated layer formed by a chromate treatment. Applicant respectfully asserts that the applied references would not have rendered obvious at least a density-intensifying layer formed on the blackened layer for intensifying black density of the blackened layer, and that the blackened layer is formed of Cu-Co alloy particles.

**A. Ueda and Miyake**

The April 9, 2009 Office Action asserts that Ueda discloses an electromagnetic shield plate comprising a transparent substrate, a conductive grid of metal particles, and a metallic layer of copper, wherein the metallic layer structure may comprise multiple layers and the uppermost layer is preferably blackened to suppress the reflection of visible light. See Office

Action, page 2. The Office Action further asserts that Ueda allegedly discloses that the metallic layer structure may be further coated using an electroplating process, such as chromate plating, to minimize the variation of thickness of the lower blackened metallic layer. Id. The Office Action asserts that the chromate layer of Ueda allegedly corresponds to the density-intensifying layer recited in claim 1. Id at 3. The Office Action cites paragraphs [0033] and [0034] of Ueda in support of these assertions. Applicant respectfully disagrees with the Office Action's assertions.

Applicant's traversal of the rejections and supporting arguments were made of record in the Amendment filed January 12, 2009. Applicant respectfully requests review of the rejections in light of the remarks made in the January 12 Amendment, with particular emphasis on the following points:

The chromate plating disclosed in Ueda does not disclose, and would not have rendered obvious, the density-intensifying layer recited in claim 1. Ueda discloses that a metallic layer or a black colored electro-deposited layer may cover a geometric pattern formed from a conductive paste, and that the metallic layer may have a single layer structure or a multiple layer structure. See Ueda, paragraphs [0032] and [0033]. Thus, these paragraphs of Ueda merely disclose 1) a geometric pattern formed from a conductive paste and 2) a metallic or black colored electrodeposited layer, where the metallic layer may have a single layer or multiple layer structure. Nowhere do these paragraphs disclose, or provide any reason or rationale for one of ordinary skill to have included, a third density-intensifying layer formed on the blackened layer. Further, paragraph [0034] of Ueda merely discloses methods for forming the metallic layer or a blackened layer, but Ueda does not disclose, and would not have rendered obvious, forming an additional layer on the blackened layer via chromate plating, as asserted on pages 2 and 3 of the April 9, 2009 Office Action, for at least the following reasons.

First, Ueda discloses that in a multiple layer structured metallic layer, “the uppermost layer is preferably a black colored layer which can suppress the reflection of visible light.” Ueda, paragraph [0033] (emphasis added). Thus, Ueda discloses that the uppermost layer of a multiple-layer-structure metallic layer is the black colored layer. Applicant respectfully asserts that if a density-intensifying layer were added “on the blackened layer,” as recited in claim 1, the black colored layer would no longer be the uppermost layer. Thus, adding such a layer is against the teachings of Ueda, rather than being disclosed or suggested by Ueda. Therefore, Ueda fails to disclose a density-intensifying layer formed on the black colored layer. Further, neither the Office Action nor the applied reference provides a reason or rationale for one of ordinary skill in that art to have modified Ueda to include a density-intensifying layer on the black colored layer.

Second, the chromate plated layer of Ueda is the black colored layer, not an additional layer formed on a black colored layer, as asserted in the Office Action. Ueda discloses that it is effective for “making a variation in thickness of metallic layer small that thin metallic layer is further plated using electroplating after covering thin metallic layer on the geometric pattern using electroless plating.” Ueda, page 4, lines 44-45. Thus, Ueda merely discloses that to keep variations in thickness of the metallic layer small, an electroplating step should follow an electroless plating step. However, this disclosure of Ueda does not disclose, and would not have rendered obvious, that any layer should be formed over the blackened layer. Rather, it merely discloses that if the metallic layer is a structure comprising a plurality of layers, the above steps should be utilized to keep variations in the thickness of the metallic layer low without any mention of a blackening process.

Further, Ueda discloses, “When forming the uppermost layer as a black colored layer, black nickel plating, chromate plating, or black ternary alloy plating using tin, nickel and copper, or black ternary alloy plating using tin, nickel and molybdenum, should be applied for

the formation of the black colored layer." Ueda, paragraph [0034], lines 46-48 (emphasis added). Thus, Ueda merely discloses that chromate plating, or a number of other methods, may be used to form the blackened layer itself. However, this paragraph of Ueda does not disclose that an additional chromate plating step can or should be conducted after the uppermost layer is blackened, as asserted in the Office Action. Further, the Office Action fails to identify any other portion of the applied references that discloses chromate plating, let alone chromate plating after the uppermost layer is blackened.

Finally, the Office Action, on pages 2-3, asserts that "[t]his last, chromate plating leveling layer would also necessarily be black." Thus, the Office Action concedes that the chromate layer of Ueda is the black colored layer that has undergone a sulfuration or oxidation treatment to become blackened. Applicant respectfully asserts that the density-intensifying layer of claim 1 is separate from the blackened layer and, thus, cannot properly be read as being a blackened layer when a blackened layer is already positively recited in claim 1. Further, as disclosed in the specification, "the chromate treatment has practically acceptable transparency." Specification, page 15, line 30. Therefore, Applicant submits that the density-intensifying layer of claim 1 is not, and cannot properly be read as being, a blackened layer. Thus, by the Office Action's own admission, the chromate layer of Ueda is not the density-intensifying layer of claim 1.

Regarding the Miyake reference, the Office Action asserts that it would have been obvious for one of ordinary skill in the art to have modified Ueda to have a Cu-Co alloy in place of the copper metallic layer. However, Miyake discloses that "[i]f the amount of Co contained is below 0.01 wt%, the effect of improvement of corrosion resistance is not identified. If the amount of Co contained exceeds 1.0 wt%, the effect in improvement of corrosion resistance saturates whereas the electrical conductivity deteriorates." Miyake, English translation, page 3, line 21-page 4, line 3. Claim 1 recites that the blackened layer is

formed of a Cu-Co alloy, and Ueda discloses that a layer is blackened by sulfuration or oxidation treatment. See Ueda, paragraph [0034]. Therefore, if the Cu-Co alloy particles are formulated to be resistant to corrosion, as is disclosed in the Miyake reference, it will become more difficult to perform an effective blackening treatment and, thus, it will be more difficult to form the blackened layer of Cu-Co alloy particles. Thus, Applicant asserts that it would not have been obvious to one of ordinary skill in the art to have used an alloy for a blackening layer that would hinder the blackening process.

As stated above, the applied references fail to disclose each and every feature of claim 1. Further, the Office Action fails to provide any reasoning with some rational underpinning to support the legal conclusion of obviousness at least because the Office Action fails to provide any reason or rationale for one of ordinary skill in the art to have modified the disclosures Ueda and Miyake to have included a density-intensifying layer on the blackened layer. Therefore, the Office Action has failed to show that each and every claimed feature was disclosed, expressly or impliedly, in the art and, thus, the Office Action has not proven a *prima facie* case of obviousness.

**B. Kadokura**

Kadokura is not applied to address the above discrepancies of Ueda and Miyake as to claim 1. Thus, Applicant asserts that the Office Action has failed to show that each and every claimed feature was disclosed in the art for the reasons stated above.

**III. Conclusion**

It is respectfully submitted that the rejections are predicated upon legal and factual deficiencies, and that all the pending claims are in condition for allowance. Withdrawal of the rejections and allowance of this application are respectfully requested.